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The origin of Vowel Balance
in Swedish and Norwegian dialects

The term »vowel balance« (Sw. *vokalbalans*) signifies in the Scandinavian dialectological tradition the dependence of the quality (and/or the quantity) of the vowel of the second syllable on the original quantity of the first (root) syllable. If the root syllable is long (bimoraic), the vowel of the second syllable is reduced or apocopated. If the root syllable is short (monomoraic) the second syllable retains its quantity and quality or it can be even lengthened and/or qualitatively strengthened. In modern Swedish and Norwegian dialects we can find the following vowel alternation according to the rule of vowel balance: after a long syllable *ə* (*a*), *o*, *e* or *Ø* (apocope), after the short syllable *a* or *å*, *u*, *i* (or with lengthening *å*;*, i*;*, u*:), *båkå*: (cf. OIcl. *baka*) but *kaste*, *bi:te* (OIcl. *kasta*, *bíta*) in Tinn (Telemark);¹ *jivå*, *bärå* (OIcl. *gefa*, *bera*) but *finna*, *bi:ta* (OIcl. *finna*, *bíta*) in Rättvik (Dalarna)² or *båkkå* (OIcl. *baka*) but *kåst*, *bî:t* (OIcl. *kasta*, *bíta*) in Oppdal (Trøndelag).³

The vowel balance alternations can be seen most clearly in nouns and verbs (cf. *vårrå* »to be« (OIcl. *vera*), *hårrå* »hare« (OIcl. *hara*, sg. casus oblique) but *kåst* »to cast«, *vî:s* »song« (OIcl. *kasta*, *vísa*) in the dialect of Oppdal (Norway).⁴ In the Norwegian dialectological tradition the term »split infinitive« (*kløyvd infinitiv*) is used to show the difference in the vowel balance. Various forms of vowel balance in the verbs with the original infinitive suffix *-a* can be seen in the following table:⁵

after short syllable	after long syllable
<i>baka</i>	<i>kasta</i> (Old Icelandic, no vowel balance)
<i>båkå</i>	<i>kaste/kasta</i> (Vågå, Oppland)
<i>båkå</i> :	<i>kaste</i> (Tinn, Telemark)

¹ SKULERUD 1922, 170.

² BJÖRKLUND 1994, 54–55.

³ LARSEN 1913, 8–9.

⁴ HAUGEN 1982, 49.

⁵ Cf. STORM 1884/1908, 62–62, ØVERBY 1974, 13–14; LEVANDER 1925–1928, 225–228; KOCK 1888, 89; NEUMANN 1918, 1; DAHLSTEDT 1955, 7–8; HAUGEN 1982, 49; REITAN 1906, 4; HOFF 1949, 38; SKULERUD 1922, 170.

after short syllable	after long syllable	
<i>baká</i>	<i>kasta</i>	(Mora, Dalarna)
<i>bakå</i>	<i>kast</i>	(Houtskär, Finland)
<i>båká</i>	<i>kasta</i>	(Rättvik, Dalarna)
<i>baka</i>	<i>kaste/kâst</i>	(Norrland)
<i>båkkå</i>	<i>kast</i>	(Oppdal, Trøndelag)
<i>båkkå</i>	<i>kaste</i>	(Ålen, Trøndelag)
<i>bå:kå</i>	<i>kaste</i>	(Numedal, Buskerud)

We can see that the original *-a* in the second syllable is reflected as *a*, *å*: or *â* after original short syllable and as *a*, *ə* or *Ø* after original long syllable.

In the dialects with the original quantity of the root syllable the vowel balance is a kind of a foot isochrony with a constant number of moras in bimoraic or trimoraic stressed complexes. In the vowel balance with lengthened second vowel after the short syllable the complexes are trimoraic: *kas-ta* (2+1) = *bi:-ta* (2+1) = *bå-kå*: (1+2), in the second type of vowel balance the stressed complexes are bimoraic *kast* (2) = *bi:t* (2) = *bå-kå* (2).

Traditionally vowel balance is marked both in the dialects with preserved short syllable words where it works as a phonological rule (as in *båká*: but *kaste* Tinn, Telemark or *båká* but *kasta* in Mora Dalarna) and in the dialects with the quantity shift, where all short syllables have been lengthened (as in Røros, cf. *våttå*, *ba:ka*, OIcl. *vita*, *baka*).⁶ However there is no longer a connection here between the quantity of the first and the second syllable. All syllables are long. The first step of the generalization of the long syllable forms can be found in the northern Norwegian dialect of Rana where a part of the original short syllable words preserves the traces of the vowel balance in forms like *ja:ga*, *ve:ta* (OIcl. *jaga*, *vita*), cf. with forms like *drekk*, *fly:g*, (OIcl. *drekka*, *fljúga*). However a great part of the original short syllable words already has a variant with apocope, which was originally only characteristic of the long syllable words, cf. *le:va* – *le:v*, *sø:va* – *sø:v* (OIcl. *lifa*, *sofa*).⁷ Although only

⁶ REITAN 1932, 155–156.

⁷ ELSTAD 1982, 50.

phonological alternations in the dialects with the preserved quantity can be classified as a real phonological rule the Scandinavian dialectological tradition does not make any difference between vowel balance as a phonological rule and the lexicalized forms of the vowel balance. For our reconstruction vowel balance as a rule shows us the phonological mechanism of the phenomenon, while lexicalized vowel balance shows us the original spreading of vowel balance.

Vowel balance and qualitative levelling (*jamning*, see below), which is structurally connected with vowel balance (see below) are two important phonological isoglosses which are characteristic of the north-eastern Scandinavian area (see fig.). Vowel balance is spread in Eastern Norway and in Trøndelag and in some northern Norwegian dialects (Brønnøy und Rana in Helgeland, Bardu and Målselv in Troms). Vowel balance is also allowed in one of the variants of New Norwegian. In Sweden vowel balance is spread in northern Sweden, in Jämtland, Härjedalen, Dalarna and in parts of Värmland. Hesselman found traces of vowel balance in middle Sweden in Uppland, Södermanland, Västmanland and Närke, cf. forms such as *skadi*; *ruddi*, *gatu(n)*, *kakur* but *bonde*, *kjörkjån*, *kjörkjår* (OId. *skaði*, *roði*, *götu*, *kökur*, *bóndi*, *kirkjan*, *kirkjur*).⁸ Traces of vowel balance can be found even in standard Swedish, cf. *u* after the original short syllable in *ladugård*, *gatudörr* but *o* after the original long syllable in *kyrkogård*, *tungomål*.

The contemporary spreading of vowel balance testifies that the innovation centre of this phenomenon was Trøndelag in Norway and the neighbouring Swedish areas.

Vowel balance in the dialects with short syllable words

In the dialects with preserved short syllable words there are two types of vowel balance. The most common type represents bimoraic complexes with accent 1 and 2 in original long syllable words and level stress in bisyllabic short syllable words. Thus the first two moras in the original long syllable bisyllabic words are stressed, the third mora is reduced or apocopated (as in *kastə* or *kâst* < *kasta*). The bisyllabic short syllable words have what is called level stress. Both syllables have the same or

⁸ HESSELMAN 1905, 8, 16.

similar intensity, quantity and type of pitch.⁹ Though in sentence intonation both the first and the second syllable of a short syllable word can be heard as more stressed,¹⁰ the accent in the short syllable words is appropriately called in Swedish *jämnviktsaccent* («equal weight accent»). The level stress accent shows that the smallest linear stressed unit is a bimoraic complex with the quantitative equivalence of two moras which are divided by a consonant (as in *ta-la* (2)) to two moras which are not divided by a consonant (as in *bi:* (2)-*ta* or *kas*(2)-*ta*). This mora counting manifests itself in the quantitative equivalence of *tala* to *kas-* (in *kaste*) and *bi:-* (in *bi:te*). The reduction in this case can concern only the third mora. If the suffix turns out to be the second mora of the word it is preserved and stressed and even strengthened (*a* > *å*, as in *tala* > *tålå*). If it turns out to be the third mora of the word it is reduced or apocopated as in *bi:ta* and *kasta* (> *bi:te*, *kaste* or *bî:t*, *kâst*). In most dialects with vowel balance a stressed bimoraic syllable has either a moraic peak accent on the first mora (as a rule accent 2) or a moraic peak accent on the second mora (as a rule accent 1).¹¹ In the short syllable words both moras have *jämnviktsaccent*.

The connection of two short vowels (two moras) in words such as *viku* or *vita* in one stressed unit and the prosodic equivalence of two short vowels to one long (bimoraic) vowel manifest themselves in the qualitative assimilation of the two short vowels (*metaphony*, NNw. *jamming*, Sw. *tilljämning*).¹² The regressive or mutual assimilation of the two short vowels is characteristic of all the dialects with vowel balance. Such assimilation can be partial as in *vita* > *væta*, *ladu* > *lædu* or complete as in *viku* > *vuku*, *vukku*; *vita* > *vâtå*, *våttå*.

The second type of vowel balance is characterized by the oxytone or lengthening of the second mora in the original short syllable words. This situation is found in Tinn (Telemark) and Vågå (Gudbrandsdalen) in Norway and in some Swedish dialects of Dalarna, cf. *viku:* (OIcl.

⁹ Cf. STORM 1884/1908, 62–63; LEVANDER 1909, 50; GEIJER 1921, 5.

¹⁰ LEVANDER 1909, 8–9.

¹¹ Accent 1 indicates the accent of original monosyllable words, accent 2 indicates the accent of original bisyllabic words. The phonetic realization of the accents in different parts of Scandinavia can vary so that the accent 1 in one area can have the same or similar realisation as the accent 2 in another area.

¹² KUZ'MENKO 1980, 151.

viku oblique cases of *vika*), *stugu*: (OIcl. *stugu*), *næva*: (OIcl. *hnefa* oblique cases of *hnefi*), *læsa*: (OIcl. *lesa*), *nyky:l* (OIcl. *lykill*) in Vågå, *viku*:, *neve*:, *bytå*: (Pl. of *biti*:, OIcl. *biti*), *vytå*: (OIcl. *vita*) in north-eastern Telemark¹³ and *båkå*, *leså*, *fårå*, *såvå* in the dialect of Furnäs in Dalarna.¹⁴ In these dialects we find a trimoraic rule: for every bisyllabic word consists of three moras, the quantitative pattern is either CVCV: (1+2) as in *vuku*:, *næva*: or CV:CV, CVCCV (2+1) as in *kasta* oder *bi:ta*.

Vowel balance in Old Swedish and Old Norwegian manuscripts: The original form of the Scandinavian vowel balance.

Vowel balance in Old Swedish and Old Eastern Norwegian manuscripts manifests itself in the alternation of writings *a*, *i*, *u* after short syllables and *æ*, *e*, *o* after long syllables, cf. OSw. *kastæ*, *husæ*, *mother*, *tungo*, *landom* but *bæra*, *tala guthi*, *gatu*, *fathir laghum*, Old East-Norwegian *sændæ*, *høyræ* but *gera*, *vita*.¹⁵ Instead of the alternation *a* – *æ* the alternation *a* – *o* (cf. *kasta* but *bäro*) can occur. Swedish and Norwegian manuscripts show that the vowel balance used to be characteristic of a much bigger area than it is now. There are manuscripts with vowel balance in the areas which now have no traces of the phenomenon as in Uppland, Sördermanland, Dalarna, Västmanland, Östergötland, and even in Småland¹⁶ (see fig.). Wessén assumed that vowel balance was spread earlier across most of Sweden.¹⁷

The first examples of vowel balance in Sweden are found in manuscripts from the 14th century, cf. Kopparbergsprivilegier (1347) of Magnus Eriksson, cf. *haua*, *vara*, *giva*, *copar* but *køpæ*, *blivæ*, *mangæ*, *skrifvæth*¹⁸ and Codex Bureanus (1350–1370), cf. *gangæ*, *niutæ*, *køpæ*, *mother* but *fara*, *giva*, *bæra*, *fathir*.¹⁹ Wessén dated the vowel balance to

¹³ STORM 1884/1908, 62–63; SKULERUD 1922, cf. also KOLSRUD 1951/1974, 10–11; SCHULTZE 1972, 11–22.

¹⁴ LEVANDER 1925–1928, 225–228, 232; WESSÉN 1970, 70.

¹⁵ NOREEN 1913, 127; WESSÉN 1970, 41; SEIP and SALVEIT 1971, 110.

¹⁶ KOCK 1921, 50–61, 197–199.

¹⁷ WESSÉN 1970, 70.

¹⁸ KOCK 1921, 201.

¹⁹ NOREEN 1904, 128–129.

early Old Swedish (1225–1375).²⁰ The first examples of vowel balance in eastern Norway are from the same time.²¹ Larsen assumed that vowel balance in Norway used to be spread across on a larger area than it is now.²²

The vowel balance *o* : *a* (ə), which is characteristic of a greater part of the contemporary dialects is rarely reflected in Old Swedish and Old East-Norwegian manuscripts (cf. *gøro*, *gato*, *komo*, *ätho*, *bogo*, *bäro*, *dräpo*, *liffuo* but *brinna*, *falla*). The suffix in short syllable words often have the same designation as the suffix in long syllable words (cf. *gata*, *koma*, *ätha*), often in free alternation with forms such as *gato* and *komo* in the same manuscript.²³ The writings with *o* and even *aa* instead of *o*: were »right unusual« in Swedish manuscripts.²⁴ But sporadic usage of the writings with *o* in short syllable words indicates that the vowel balance *ā* – *a*, which is now characteristic of Härjedalen and Dalarna, was spread in the 15th–16th century even in middle Sweden, cf. writings *göro*, *gräffuo*, *waro*, *lätho*, *komo*, *giffuo*, *gatho*, *skadho*, *haffuo*, *dago* in Östergötland, Västmanland and Södermanland.²⁵

Kock assumed that the original form of vowel balance concerned the lengthening of the second vowel in short syllable words, cf. *skari* > *skari:*, *viku* > *vuku:*, *tala* > *tala:*. The original long *a* has developed in Mainland Scandinavian to *å* /o:/, as in *år*, *å*, *mål* (OIcl. *ár*, *á*, *mál*). The lengthened *-a* in the second syllable of short syllable words underwent the same development (*vita* > *vita:* > *vitå:* > *vitå* > *våtå*). Later, the second vowel was shortened in the majority of Swedish and Norwegian dialects (*tålå:* > *tålå*) but in most archaic ones it has retained its quantity (see above).

The stages of this process can be found in modern dialects (*tala* > *tala:* > *talå:* > *tålå:* > *tålå*).²⁶ Hægstad followed Kock in explaining different developments of the vocalism of the second syllable in Eastern and Western Norwegian through the difference in the word stress.

²⁰ WESSÉN 1970, 68–71.

²¹ SEIP and SALVEIT 1971, 274, 375–376.

²² LARSEN 1913, 3–5, 8.

²³ KOCK 1921, 193–194; NEUMANN 1918.

²⁴ Ibid., 14.

²⁵ Ibid., 22–25, 80–88.

²⁶ KOCK 1888, 87–89; HÆGSTAD 1899, 65.

According to him in Eastern Norwegian and in Trøndelag the short syllable words exhibited oxytone and vowel lengthening. The stress of the short root syllable was so weak that the quality of the lengthened second vowel influenced the quality of the root syllable (*jamning*, see above), *snaru:* > *snuru*.²⁷ If Kock and Hægstad are right, and *å* (< *a*) in the second syllable was the result of the lengthening of *a*, the spreading area of the lengthening of the second vowel in short syllable words used to be much larger than it is now. The majority of the Swedish and Norwegian dialects with vowel balance have *-å* < *-a* (cf. *våttå*, *vå:tå*, *våtå*, *vitå*, cf. OIcl. *vita*). Kock's hypothesis has been supported by several authors.²⁸ However it was rejected by Hesselman, who assumed that the difference in the vocalism in the words with original *-a* in the second syllable in short and long syllable words was not a quantitative but a qualitative one. The *-a* after the short syllable was more closed than after the long one in correspondence with the vowel balance alternations of two other vowels, cf. *u*, *i*, after the short syllable and *e*, *o* after the long syllable.²⁹ The hypothesis of Hesselman had some advocates.³⁰ But it could not call into question the advantages of the traditional point of view. Kock's hypothesis is based not only on the comparison of the development of *-a* in the second syllable of short syllable words with the development of the original long *a* as in /a:r/ > /o:r/ *år* but mainly on the lengthened vowel in short syllable words in archaic Swedish and Norwegian dialects (cf. *vikū*; *tålå*: above). The comparison of the dialectal data shows that the traditional representation of vowel balance as a sequence of changes *tala* > *tala:* > *talå*: > *tålå*: > *tålå* is correct.

Vowel balance is absent in Danish, Icelandic, Faroese and in the western Norwegian dialects. There are no traces of it in the mediaeval manuscripts from these areas either. However Kock assumed that vowel balance used to be characteristic of the entire Scandinavian area.³¹ Hesselman developed Kock's idea further and proposed a common Germanic origin for vowel balance. He compared Scandinavian vowel balance with the similar development in the West Germanic languages, first

²⁷ Ibid., 64–65.

²⁸ SEIP and SALVEIT 1971, III; WESSÉN 1970, 70.

²⁹ HESSELMAN 1948–1953, 256.

³⁰ BERGFORS 1961, 23; BORG 1973, 91–95.

³¹ KOCK 1921.

of all in Old English, cf. forms with the apocope of *i* and *u* after the long syllable, cf. *giest* < **gastiz*, *fót* < **fótus*, *heall* > **hallū*, *fét* < **fōti* with the forms with preserved *i* and *u* after the short syllable, cf. *wini* < **ueniz*, *sunu* < **sunus*, *giefu* < **gebū*, *hnyti* < **hnuti*.³² Traces of this phenomenon can be found in Old Saxon and in Old High German.³³ Both Kock and Hesselman mentioned vowel balance alternations in the Frisian dialect of Wangeroog.³⁴ Wiik also assumed that vowel balance was Proto-Germanic.³⁵

But it is hardly possible to propose a common Germanic origin of vowel balance. There is neither vowel balance in Gothic (4th century) nor in the older Runic inscriptions (3rd–8th centuries). The suffixes and inflections in elder Runic inscriptions have the same form both after long and after short syllables, cf. after the short syllable **magu** (Kjølevik, 450), **magor** (Vetteland, 350), after the long syllable **solu** (Eggjum, 700), **-gastiR** (Gallehus, 400), **hite** (Järsberg, 500) **haitinaR** (Kalleby, 400). In the younger runic inscription it is impossible to determine the presence or the absence of vowel balance. There are no traces of vowel balance in Old Icelandic, the most archaic Old Scandinavian language. The difference in time between the West Germanic vowel balance, which would have taken place in 600–700 and vowel balance in the north-eastern Scandinavian dialects, which is dated from the 14th century is too significant (more than 500 years) and the difference in form (cf. especially vowel lengthening and qualitative assimilation in Scandinavia) is too obvious to consider these two phenomena as having the same common Germanic origin. The north-eastern Scandinavian vowel balance is an innovation which developed in the beginning of the second millennium in north-eastern Scandinavia and had its peculiarities which make Scandinavian vowel balance different from vowel balance in West Germanic languages. This difference concerns not only the lengthening and the strengthening of the second syllables of the short syllable words in north-eastern Scandinavian (*viku* > *viku*.; *tala* > *tala*: > *talå*.) but even a special regressive assimilation in short syllable words (*jamning*, see above),

³² HESSELMAN 1948–1953, 34.

³³ BRAUNE 1955, 215–217, 220.

³⁴ HESSELMAN 1948–1953, 36.

³⁵ WIİK 1997, see below for details about Wiik's hypothesis.

cf. *vuku*, *tålå*. The assumption about the autochthon development of Scandinavian vowel balance is spread among modern Scandinavian linguists. Torp calls Scandinavian vowel balance »a special own northern Scandinavian innovation«.³⁶ This point of view is shared by Riad.³⁷

The proposed causes of the Scandinavian vowel balance

The questions why Scandinavian vowel balance has developed only in the north-eastern part of Scandinavia and how the peculiarities of Scandinavian vowel balance such as second vowel lengthening and vowel assimilation in short syllable words could be explained have rarely been asked. An exception is Kalevi Wiik, who assumed that several phonological features of the Germanic languages such as the first consonant shift, Verner's law, the shift of the stress to the first syllable and some vowel changes can be explained through the Finno-Ugric substrate in Proto-Germanic.³⁸ According to Wiik, vowel balance belongs to phenomena of the same origin.³⁹ Scandinavian and West Germanic vowel balance are both treated by Wiik as phenomena identical with the »old Finno-Lappic foot isochrony«.⁴⁰ Wiik determines three types of prosodic patterns in short syllable words in modern Finnish and Estonian dialects. The first type has an earlier F0-peak in the stressed syllable and a half-long vowel in the second syllable. The second type has the same type of root syllable and a short vowel in the second syllable. The third type has a late F0-peak in the stressed syllable and a half-long vowel in the second syllable.⁴¹ Wiik treats the first type as the most archaic and connects the Scandinavian vowel balance with this type of Finno-Sámic isochrony (cf. »there is no doubt about the Lappo-Finnic origin of the North Scandinavian vowel balance«⁴²). In Wiik's article from 1995 it is not clear what time he dates the Scandinavian vowel balance to.⁴³ In his later publica-

³⁶ TORP 1983, 55–57.

³⁷ RIAD 1992, 191–195.

³⁸ WIİK 1997; WIİK 2002.

³⁹ WIİK 1997, 86; *ibid.*, 270; WIİK 2002, 165–167; cf. also ELERT 1997, 79.

⁴⁰ WIİK 1995, 86; WIİK 1997, 270; WIİK 2002, 164.

⁴¹ WIİK 1995, 84–85.

⁴² *Ibid.*, 86.

⁴³ Cf. WIİK 1997, 59.

tions he dates the vowel balance to the Proto-Germanic period.⁴⁴ Elert, following Wiik, treats the Germanic vowel balance as a substrate feature dating from the Bronze Age.⁴⁵

Wiik and Elert did not treat the object in detail and assumed a much earlier development than was indicated in the medieval manuscripts. But, although Wiik and Elert's early dating of Scandinavian vowel balance can hardly be correct (see above), the idea of a »Lappo-Finnic« influence on the development of Scandinavian vowel balance seems to be very instructive. However this influence dates from a much later time than the Bronze Age and is not Lappo-Finnic but only Lappish (Sámi).

I assumed in 1980 that north-eastern Scandinavian vowel assimilation in short syllable words (*jamning*) could be connected with the Sámi metaphony which is especially characteristic of Southern Sámi.⁴⁶ I explained the spreading of this feature in the north-eastern Scandinavian dialects due to the functional connection of *jamning* with vowel balance. The phonological rule of *jamning* was a very suitable means to qualitatively connect two moras of a bimoraic complex in bisyllabic short syllable words which were quantitatively equal to a bimoraic (long) vowel. I saw then a connection of *jamning* in Scandinavian with metaphony in Sámi and a functional connection of *jamning* with vowel balance⁴⁷ but I did not see a connection of Scandinavian vowel balance with the corresponding phenomenon in the Sámi languages. First in 2000 we proposed a possible connection between the Sámi and the Scandinavian vowel balance.⁴⁸

To better understand how the Sámi quantitative pattern could be connected with north-eastern Scandinavian vowel balance we must treat the prosodic structure of Sámi in detail.

⁴⁴ WIİK 1997; WIİK 2002.

⁴⁵ ELERT 1997, 79–80.

⁴⁶ KUZ'MENKO 1980, 135, fig. II, 151–154; cf. also KUZ'MENKO 1983; KUSMENKO and RIESSLER 2000.

⁴⁷ Ibid.

⁴⁸ Ibid.

Vowel balance in Sámi

The modern Sámi languages have different systems of segmental prosodies (types of VC-combinations). In North Sámi we can find all possible types of VC-patterns. Type 1. (monomoraic) short syllable (short vowel + extrametrical short consonant as in *fa-nas* ›boat‹), 2. (bimoraic) long syllable (long vowel + extrametrical short consonant as in *guo-sat* ›fir‹ or short vowel + consonant + extrametrical consonant as in *gul-lat* ›to hear‹), 3. (trimoraic) overlong syllable (long vowel + consonant + extrametrical consonant as in *goar-rut* ›to sew‹ or short vowel + long consonant + extrametrical consonant as in *man'ni* /man:-ni/ 2. Pers. Dualis of *mannat* ›to go, to walk‹ and 4. (quadmoraic) over-overlong syllables with long vowel + long consonant + extrametrical consonant as in *fár-ret* /fa:r:-ret/ ›to move‹. On the other hand, the prosodic pattern of the unstressed syllable is restricted. This restriction concerns in particular the quantity of unstressed syllables after monomoraic roots. In most of the northern Sámi dialects and in Lule Sámi there is »a certain harmony between the quantity of the stressed and unstressed syllable«. ⁴⁹ This harmony manifests itself first of all in the rule that if the first syllable is short, the unstressed syllable must be long. Sequences of two short syllables are impossible. Nielsen indicates in the Northern Sámi dialect of Polmak not only the lengthening but even a strong secondary stress of the second vowel in short syllable words, cf. *manām* ›I go‹, *loḡām* ›I write‹. ⁵⁰ In this dialect, several forms have different quantitative structures of the second syllables in accordance with the quantity of the root syllable:

after short syllable	after long syllable
a	ā
spihttsa ›whip‹	spitšā (GEN./ACC.)
rihtta ›trap‹	riðā (GEN./ACC.)
dahkka ›he makes‹	
daya ›make!‹	dαyām ›I make‹
sihtta ›he wants‹	siðām ›I want‹

⁴⁹ NIELSEN 1903, 14.

⁵⁰ Ibid., 14.

after short syllable	after long syllable
u	ū
lɑD:du ›lead‹	lɑjū (GEN./ACC.)
gihppu ›pain‹	givū (GEN./ACC.)
man:nu ›walking‹	manū (GEN./ACC.)
gohttsu (gen./acc.)	gotšū ›rust‹
i	ī
hɑd:di ›price‹	hɑDīn (COM.)
jɑhkki ›year‹	jɑyī (GEN./ACC.)
fag:gi ›wooden hook‹	fagīn (COM.)
dil:li ›position‹	dilī (GEN./ACC.) ⁵¹

We can see that the shortest word in Polmak is trimoraic (1+2 or 2+1). In the dialect of Polmak and in the other northern Sámi dialects vowel balance works only in original short syllable words. In words with polymoraic roots we can find long vowels in the second syllable after a long vowel in the root syllable, cf. *āhpīn* (COM.) ›power‹, *vūhpīn* (COM.) ›narrow bay‹ in Polmak.

The tendency towards lengthening of the second short vowel is also characteristic of Standard North Sámi, cf. *ola:n*, ›I stretch out‹, *mana:n* ›I walk‹, *alá:s* ›high‹.⁵² According to Magga the sequence of two short syllables is possible in the dialect of Kautokeino only in imperatives, vgl. *bija* ›lay!‹, *mana* ›go!‹, *daga* ›make!‹, *bora* ›eat!‹, *loga* ›read!‹, *huma* ›speak!‹,⁵³ in contrast to the dialect of Polmak where even imperatives have a long second vowel after short root vowels, see above. In the other short syllable words, vowel lengthening works in Kautokeino as it does in Polmak, cf. *velá* /velaa/ ›further‹, *vesá* /vesaa/ ›a young tree‹, *bahá* /pahaa/ ›bad‹, *olu* /oluu/ ›much‹, *lusa* /lusaa/ ›near‹.⁵⁴ After polymoraic syllables, as in Polmak, both long and short vowels are possible, e. g. *dolla* /tollaa/ ›fire‹, *gussa* /kussaa/ ›cow‹, *dinii* /tiinii/ ›he earns‹. Magga establishes the connection between the quantity of the first and the second syllable and assumes that in the dialect of Kautokeino the

⁵¹ NIELSEN 1903, 38–71

⁵² BARTENS 1989, 41–42; NICKEL 1990/1994, 13–14.

⁵³ MAGGA 1984, 22–23.

⁵⁴ Ibid., 22–23.

main prosodic unit is neither a segment nor a syllable but a bisyllabic structure, which consists of a vowel centre, a consonant centre and a *latus* (the second syllable).⁵⁵

In some Sámi languages the interdependence of the first and the second syllables also concerns words with polymoraic root syllables. Lagercrantz claims that this connection is especially strong in Eastern Sámi.⁵⁶ Senkevič-Gudkova observed three quantity patterns for bisyllabic words in the dialect of Notozero. The quantity of the unstressed second syllable correlates to the quantity of the root syllable: the vowel /a/ is reduced and becomes schwa after a syllable with a long geminate (*pal'ʹə*), is slightly reduced after a syllable with a long consonant (*pallæ*) and retains its full quantity and quality after a syllable with a short consonant (*pala*). The three forms have the same quantity.⁵⁷

It is assumed that the dependence of the quantity of the second vowel on the quantity of the root syllable (i.e. vowel balance) was characteristic of Proto-Sámi. It is possible that it was spread even during the Finno-Sámic period. Vowel balance can be traced in Finnish and Estonian. In the northern and southern Finnish dialects the ratio of quantity between the root syllable and the second syllable is 2:3.⁵⁸ In Meänkeli, vowel balance manifests itself in the interdependence of the quantity of the root and the suffix. After a long syllable, a short suffix follows, after a short syllable, a long suffix follows.⁵⁹ An unstressed vowel after a long syllable in Estonian is not only longer than a short stressed vowel but even than an unstressed vowel in long syllable words.⁶⁰

Relation between vowel balance in Sámi and in Scandinavian

The comparison between Sámi and Scandinavian vowel balance shows their great affinity. Theoretically this affinity could be the result of a

⁵⁵ Ibid., 150.

⁵⁶ LAGERCRANTZ 1927, 419.

⁵⁷ SENKEVIČ-GUDKOVA 1966, 369–371.

⁵⁸ LEHISTE and WIIK 1968, 570. For the spread of the vowel balance in Finnish dialects see *ibid.*, 573.

⁵⁹ WANDE 2003, 26.

⁶⁰ LEHISTE 1968, 295–297, 301.

parallel development. Vowel balance is a feature that could develop along parallel lines in different languages and at different times (cf. the vowel balance in Old English). But the affinity between Scandinavian and Sámi vowel balance is not restricted to the general principle of the connection of the quantity of the root syllable with the quantity of the second syllable but it concerns the concrete form of vowel balance. In the Sámi dialects with preserved short root syllables, Sámi vowel balance manifests itself in the lengthening of the second vowel (the shortest bisyllabic word thus became trimoraic V:CV, VCCV or VCV:). This pattern corresponds completely to vowel balance in the archaic Scandinavian dialects. Vowel balance in the Sámi dialect of Polmak with lengthening and secondary stress on the second vowel corresponds completely to the lengthening and oxytone of the second vowel in archaic Scandinavian dialects with the trimoraic pattern and differs from vowel balance in the Old West Germanic languages.

This similarity becomes still greater if we take into consideration that long *á*:, *i*:, *u*: in the dialect of Polmak have developed from the original *a*:, *e*:, *ur*:⁶¹ i.e. after the original short syllable the change *a*:, *e*:, *ur*: > *á*:, *i*:, *u*: took place, cf. above the vowel balance alternations *i*:*e*, *u*:*o*, *a*:*o* in Swedish and Norwegian medieval manuscripts. The Sámi correspondence to the Scandinavian reduction after a long syllable and the lack of reduction after a short syllable is especially clear in modern eastern Sámi.

If we take into account the fact that vowel balance in Sámi is much older than vowel balance in Scandinavian and that the configuration of the contemporary Scandinavian vowel balance area and the traces of vowel balance in medieval Swedish and Norwegian manuscripts almost completely coincide with the configuration of the Sámi-Scandinavian cultural contact area in 1000 established by Zachrisson⁶² (see fig.), the assumption about the Sámi origin of Scandinavian vowel balance cannot seem surprising. If we take into account the fact that the qualitative assimilation in short syllable words (*jamning*) which is functionally connected with vowel balance could also have been caused by Sámi interference (see above) this assumption seems to be still more probable.

⁶¹ NIELSEN 1903, 281.

⁶² ZACHRISSON 1997, 219.

The mechanism of Sámi interference can be reconstructed as follows. In the beginning of the second millennium Sámi had vowel balance with lengthening of the unstressed vowel (as in Polmak now) and reduction of the unstressed vowels after the polymoraic root syllables (as now in the eastern Sámi dialects). This prosodic pattern was also characteristic of the Scandinavian language (L2) of Sámi speakers. In this way, original Scandinavian bisyllabic short syllable words obtained a lengthened second syllable (*tala* was pronounced as *tala:*),⁶³ original Scandinavian long syllable words gained a reduced second syllable. Starting from the Scandinavian language of the Sámi, this phenomenon spread into the Swedish and Norwegian vernaculars spoken in the Sámi – Scandinavian contact zone. The phenomenon could have spread even more to the South (see traces of vowel balance in Småland) but the forms with vowel balance were later ousted by long syllable forms which were much more frequent. *Jamning* underwent the same development and was also ousted from the southern part of Eastern Norway and from central Sweden (see fig.). The next stage in the development of Scandinavian vowel balance was the reduction of the third mora (*vikū:* > *vikū*; *kasta* > *kâst* oder *kastə*). This development occurred after the change *a:* > *o:* (cf. *tala* > *tala:* > *talå:* > *tâlå*) and was probably independent of the Sámi influence.

However the assumption about the Sámi origin of Scandinavian vowel balance raises several questions. The strongest vowel balance and the clearest traces of it now occur in the Swedish and Norwegian dialects in contact with Southern Sámi (cf. e. g. Trøndelag, Jämtland, Härjedalen, Dalarna). But contemporary Southern Sámi does not have any short syllable words and accordingly no lengthening of the second vowel. In Southern Sámi all original short syllables have been lengthened. The stressed syllable can have three isochronic patterns with the mutual interdependence of the vowel and consonant quantity. It may seem that the comparison of vowel balance in central Scandinavian with northern Sámi vowel balance is not justified. But the lack of monomoraic syllables is not original in Southern Sámi. The prosodic system with monomoraic roots similar to the modern North-Sámi one existed in the

⁶³ The Old Icelandic poetry shows us that the Scandinavian bisyllabic short syllable word had originally two moras.

Southern Sámi until the 16th–17th centuries when a quantity shift took place.⁶⁴ This means that at the time of the development of Scandinavian vowel balance the prosodic system of the Sámi dialects in the southern Sámi - central Scandinavian contact zone was identical with the prosodic system of the modern northern Sámi dialects and possibly also with the modern eastern Sámi dialects with vowel balance in words with a polymoraic root syllable.

The second problem is connected with the spreading of the archaic (trimoraic) vowel balance in the contemporary Scandinavian dialects. The forms CVCV: (as in *viku:*) were only characteristic of the outmost south-eastern Norwegian dialects (Telemark, Gudbrandsdalen) at the beginning of the 20th century; these could hardly have had direct contact with the Sámi. But the development *lesa* > *leså* > (*låsså*) shows that the lengthening of the second syllable vowel in short syllable words also used to be characteristic of the Norwegian and Swedish dialects in contact with the southern Sámi dialects (Trøndelag, Oppland, Hedmark, Jämtland, Härjedalen, Ångermanland, Dalarna, Hälsingland). The comparison of forms *vukku* and *låsså* in Trøndelag with corresponding forms in northern Telemark *viku:*, *leså:* let us assume that vowel balance was developed in Trøndelag earlier than in Telemark. The forms with a lengthened second vowel reached Telemark while in Trøndelag the next stage of the development was already taking place, namely the shortening of the second long vowel (*viku:* > *viku*, *leså:* > *leså*) and later the quantity shift (*viku* > *vuku* > *vukku*; *leså* > *låså* > *låsså*). The existence of the archaic forms in the periphery corresponds to the main principles of linguistic geography.

The most frequent objection to the possible Sámi influence on the Scandinavian languages is the low prestige of the Sámi language and the stigmatization of the Sámi. But the stigmatization of the Sámi, which was indeed characteristic of the attitude of the Scandinavians towards the Sámi in the last two centuries was absent during the Viking age and at the beginning of the second millennium. At the end of the first millennium and at the beginning of the second millennium both the spreading of the Sámi and the attitude towards the Sámi differed from those in the 19th and the beginning of the 20th centuries. According to Zachrisson, the

⁶⁴ BERGSLAND 1967, 47; BERGSLAND 1983, 83.

Sámi-Scandinavian contact area almost reached Oslo in Norway and Uppland in Sweden (see fig.). Historians and archaeologists assume a considerable degree of cultural creolization⁶⁵ and a Sámi-Scandinavian cultural symbiosis⁶⁶ in the contact area. Old West-Scandinavian literature testifies not only »cultural acceptance«⁶⁷ of the Sámi by the Scandinavians but even Sámi-Scandinavian marriages.⁶⁸ This cultural influence was not one-sided as it has been considered in the past. We find not only Scandinavian influence on the Sámi culture but even Sámi influence on the Scandinavian culture, including religion and mythology.⁶⁹ All this makes possible the penetration of the Sámi interference features in the Scandinavian dialects and their further spreading.

There is one more question which arises in connection with the assumption about the Sámi origin of Scandinavian vowel balance. In the northern Norwegian dialects, which are situated in the immediate vicinity of Northern Sámi there is neither vowel balance nor *jamning* nor are these present only in the dialects of later migrants (as in Bardu and Målselv). In the more southern areas (in Trøndelag and in Eastern Norway), in the areas inhabited today either by very few southern Sámi or by no Sámi at all we have strong vowel balance and strong *jamning*. In northern Sweden, where the number of Sámi is much lower than in northern Norway, vowel balance is characteristic of the northern Swedish dialects. How can we explain this? The southern Sámi in Sweden and Norway and a great part of the northern Sámi in Sweden have shifted their language and in many cases their identity during the time when there was no stigmatization of the Sámi and no obstacles for the penetration of the Sámi interference features in the neighboring Swedish and Norwegian dialects in Trøndelag, in eastern Norway and in central and northern Sweden. The language shift in northern Norway took place later during the time of the stigmatization of the Sámi and it is not completed yet. Only in northern Norway can we see areas with a predominant Sámi population and even with predominant Sámi languages. The stigmatization of the Sámi especially during the 19th and at the beginning of the 20th

⁶⁵ HANSEN and OLSEN 2004, 107.

⁶⁶ ZACHRISSON 1997, 139.

⁶⁷ MUNDAHL 2000.

⁶⁸ PÁLSSON 1999.

⁶⁹ STRÖMBÄCK 1935; MUNDAHL 2000; KUSMENKO 2006.

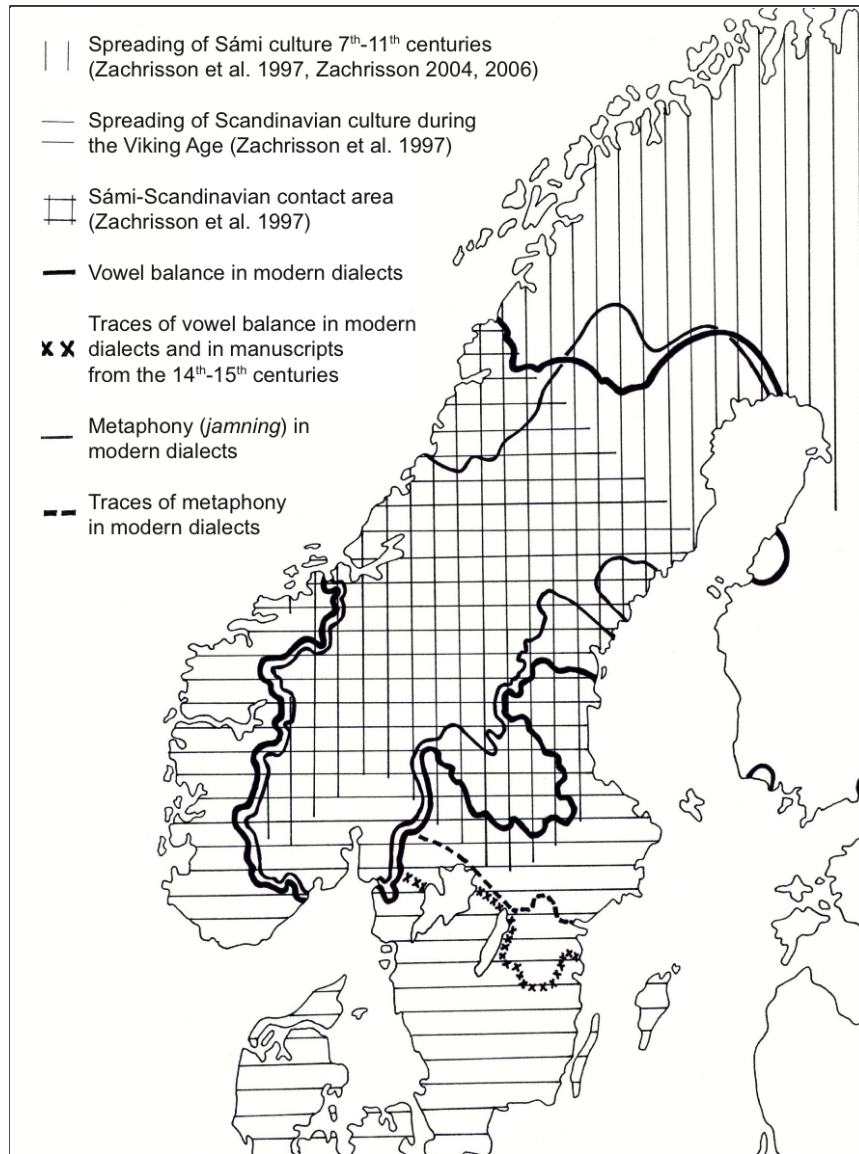


Figure 1: Metaphony and vowel balance in Scandinavian dialects and the Sámi-Scandinavian contact area in historical times (extended map from ZACHRISSON 1997, 219)

centuries prevented Sámi interference features from being able to spread into the northern Norwegian dialects.

We can propose that in the beginning of the second millennium a Scandinavization of the southern Sámi took place which led to the formation of the Scandinavian dialects of assimilated Sámi with Sámi interference features. Originating in these dialects, vowel balance spread into genuine Swedish and Norwegian dialects. This spreading was possible because in the beginning of the first millennium the relationship between the Sámi and the Scandinavian was characterized by a lack of stigmatization and by mutual respect. The vowel balance was not the only phenomenon of the Sámi interference in Swedish and Norwegian from this period.⁷⁰ Sámi interference features also include regressive vowel assimilation in short syllable words (*jamning*) which was caused by the Sámi metaphony rule (see above), and consonant lengthening⁷¹ which was connected with Sámi stadium gradation.

References

- BARTENS, Hans-Hermann: *Lehrbuch der saamischen (lappischen) Sprache*. Hamburg: Buske, 1989.
- BERGFORS, Erik Olof: *Tilljämning a - å i dalmålet*. (= Skrifter utg. av Institutionen för Nordiska Språk vid Uppsala Universitet; 10). Uppsala: Inst. för Nordiska Språk vid Uppsala Univ., 1961.
- BERGSLAND, Knut: »Lapp dialectal groups and problems of history«. In: *Lapps and Norsemen in olden times*. (= Instituttet for Sammenlignende Kulturforskning, Ser. A:26). Oslo: Universitetsforlaget, 1967. 32–53.
- BERGSLAND, Knut: »Southern Lapp and Scandinavian quantity patterns«. In: JANHUNEN, Juha (ed.): *Symposium Saeculare Societatis*

⁷⁰ For Sámi interference features in Common Scandinavian (500–1050) see KUSMENKO 2004, KUSMENKO 2005.

⁷¹ KUSMENKO and RIESSLER 2000. The first stage of this development was the appearance of the variant with the lengthened consonant originally short syllable words such as in *vukku*, *våttå* < *vikku*, *vita*. The variant was later generalized during the quantity shift in Trøndelag and to a lesser degree in eastern Norwegian and northern and central Swedish dialects.

- Fenno-Ugricae*. (= Suomalais-ugrilaisen seuran toimituksia; 185). Helsinki: Suomalais-ugrilainen seura, 1983. 73–87.
- BJÖRKLUND, Stig: »Rättviksmålets huvuddrag«. In: *Dalmålsstudier. Festskrift till Stig Björklund på 75-årsdagen den 19 februari 1994*. (= Skrifter utg. av Dialekt- och Folkminnesarkivet i Uppsala, Ser. A:24). Uppsala: Dialekt- och Folkminnesarkivet, 1994. 46–78.
- BORG, Arve. »Jamning«. In: *Svenska landsmål och svenskt folkliv* 398 (1973). 82–100.
- BRAUNE, Wilhelm: *Althochdeutsche Grammatik*. 8. Aufl. bearb. von Walther Mitzka. Halle (Saale): Niemeyer, 1955.
- DAHLSTEDT, Karl-Hampus: *Efterledsapokope i nordsvenska dialekter. En morfo-fonologisk studie*. (= Skrifter utgivna genom Landsmåls- och Folkminnesarkivet i Uppsala, A:11). Uppsala: Almqvist & Wiksell, 1955.
- ELERT, Claes-Christian: »Språket i södra Skandinavien under bronsåldern: finskt-ugriskt, baltiskt, germanskt eller...?«. In: ÅSTRÖM, Patrik (ed.): *Studier i svensk språkhistoria 4*. Institutionen för nordiska språk, Stockholms universitet, 1997. 77–86.
- ELSTAD, Kåre: »Nordnorske dialekter«. In: BULL, Tove and Kjellaug JETNE (eds.): *Nordnorsk. Språkarv og språkforhold i Nord-Noreg*. Oslo: Samlaget, 1982. 9–101.
- GEIJER, Herman: *Några bidrag till frågan om tilljämningens och apokopens utbredningsvägar*. (= Svenska landsmål och svenskt folkliv; 18). Stockholm: Norstedt, 1921.
- HÆGSTAD, Marius: *Gammelt trøndermaal: opplysninger om maalet i Trøndelag fyrr 1350 og ei utgreiding um vokalverket*. (= Skrifter / 2 Historisk-filosofisk klasse; 1899:3). Kristiania: Videnskabselskapet i Kristiania, 1899.
- HANSEN, Lars Ivar and Bjørnar OLSEN: *Samenes historie fram til 1750*. Oslo: Cappellen Akademisk Forlag, 2004.
- HAUGEN, Einar: *Oppdalsmålet. Innføring i et sørtrøndsk fjellbygdmål*. Oslo: Tanum-Norli, 1982.
- HESSELMAN, Bengt: *Sveamålen och de svenska dialekternas indelning*. Uppsala 1905.
- HESSELMAN, Bengt: *Huvudlinjer i nordisk språkhistoria*. Vol. 1–3. (= Nordisk kultur; 3–4). Stockholm: Bonnier, 1948–1953.

- HOFF, Ingeborg: *Numedalsmålet. Stutt umrit av ljod- og formlære*. (= Skrifter / 2 Historisk-filosofisk klasse; 1949:3). Det Norske videnskaps-akademi i Oslo, 1949.
- KOCK, Axel. »Långa ändelsevokaler i det nordiska fornspråket«. In: *Arkiv för nordisk filologi* 4 (1888). 87–94.
- KOCK, Axel: *Svensk ljudhistoria*. Vol. 4. Lund: Gleerup, 1921.
- KOLSRUD, Sigurd: *Nynorsken i sine målføre*. Oslo: Dybwad, 1951/1974.
- KUSMENKO, Jurij: »Skandinavisch-samischer Sprachkontakt. Gegenseitiger Einfluss«. In: KUSMENKO, Jurij (ed.): *The Sámi and the Scandinavians. Aspects of 2000 years of contact*. (= Schriften zur Kulturwissenschaft; 55). Hamburg: Kovač, 2004. 215–235.
- KUSMENKO, Jurij: »Saami influence on the development of morphological innovations in Common Scandinavian«. In: WINSA, Birger (ed.): *Finno-Ugric People in the Nordic Countries. Roots V: The roots of People and Languages of Northern Euroasia*. Övertorneå: Academia Tornedaliensis, 2005. 11–31.
- KUSMENKO, Jurij: »Jätten Thjazi och det samiska elementet i nordisk mytologi«. In: AMFT, Andrea and Mikael SVONNI (eds.): *Sápmi YIK – Livet i samernas bosättningsområde för ett tusen år sedan*. (= Sámi dutkan; 3). Umeå: Samiska studier, Umeå universitet, 2006. 11–28.
- KUSMENKO, Jurij and Michael RIESSLER: »Traces of Sámi-Scandinavian contact in Scandinavian dialects«. In: GILBERS, Dicky, John NERBONNE and Jos SCHAEKEN (eds.): *Languages in Contact*. (= Studies in Slavic and General Linguistics; 28). Amsterdam: Rodopi, 2000. 209–224.
- KUZ'MENKO, Jurij K.: »Vzaimodejstvie dialektov i fonologičeskie izmenenija (razvitie sistem glasnych v skandinavskich dialektach)«. In: BORODINA, M. A. (ed.): *Vzaimodejstvie lingvističeskich arealov. Teorija, metodika i istočniki issledovanija*. Leningrad 1980. 100–160.
- KUZ'MENKO, Jurij K.: »Istoki saamskoj metafonii (o saamskom vlijanii na skandinavskie dialekty)«. In: TOLSTOI, N. I. (ed.): *Arealnye issledovanija v jazykoznanii i ètnografii (jazyk i ètnos)*. Leningrad 1983. 44–50.
- LAGERCRANTZ, Eliel: *Strukturtypen und Gestaltwechsel im Lappischen*. (= Suomalais-ugrilaisen seuran toimituksia; 157). Helsinki: Suomalais-ugrilainen seura, 1927.

- LARSEN, Amund B.: *Om vokalharmoni, vokalbalangse og vokaltiljævn-
ing i de norske bygdemaal*. (= Forhandlingar; 7). Kristiania: Det
Norske videnskaps-akademi, 1913.
- LEHISTE, Ilse: »Vowel quantity in word and utterance in Estonian«. In:
RAVILA, Paavo and Martti KAHLA (eds.): *Congressus secundus inter-
nationalis Fenno-Ugristarum Helsingiae habitus* 23.–28.8.1965. Vol. 2.
Helsinki: Societas Fenno-Ugrica, 1968. 293–303.
- LEHISTE, Ilse and Kalevi WIIK: »Vowel quantity in Finnish dissyllabic
words«. In: RAVILA, Paavo and Martti KAHLA (eds.): *Congressus se-
cundus internationalis Fenno-Ugristarum Helsingiae habitus* 23.–
28.8.1965. Vol. 2. Helsinki: Societas Fenno-Ugrica, 1968. 569–574.
- LEVANDER, Lars: *Älvdalsmålet i Dalarna: ordböjning och syntax*. (=
Nyare bidrag till kännedom om de svenska landsmålen ock svenskt
folkliiv; 4:3). Stockholm 1909.
- LEVANDER, Lars: *Dalmålet: beskrivning och historia*. Vol. 1–2. Uppsala
1925–1928.
- MAGGA, Tuomas: *Duration in the quantity bisyllabics in the
Guovdageaidnu dialect of North Lappish*. (= Acta Universitatis Oulu-
ensis, Series B, Humaniora. Philologica). Oulu: Oulun yliopisto, 1984.
- MUNDAHL, Else: »Coexistence if Sami and Norse culture – reflected in
and interpreted by Old Norse myths«. In: BARNES, Geraldine and
Margaret Clunies Ross (eds.): *Old Norse myths, literature and so-
ciety: proceedings of the 11th International Saga Conference, 2–7 July,
2000, University of Sydney*. Sydney: Centre for Medieval Studies, Uni-
versity of Sydney, 2000. 346–355.
- NEUMANN, Erik: *Utbredningen av vokalbalansen a : å i medelsvenskan*.
Uppsala: Akademiska bokhandeln, 1918.
- NICKEL, Klaus Peter: *Samisk grammatikk*. [Oslo]: Universitetsforlaget,
1990/1994.
- NIELSEN, Konrad: *Die Quantitätsverhältnisse im Polmaklappischen*. (=
Suomalais-ugrilaisen seuran toimituksia; 20). Helsinki: Suomalainen-
ugrilainen seura, 1903.
- NOREN, Adolf: *Altnordische Grammatik mit Einschluss des Altgutnis-
chen*. (= Sammlung kurzer Grammatiken germanischer Dialekte. A,
Hauptreihe 8). Halle: Niemeyer, 1904.

- NOREEN, Adolf: *Geschichte der nordischen Sprachen besonders in alt-nordischer Zeit*. 3rd ed. (= Grundriss der germanischen Philologie; 4). Strassburg 1913.
- ØVERBY, Joleik: »Målføra på indre Austlandet«. In: SKOGSTAD, Ola (ed.): *Austlandsmål: språkarv og språkbruk på indre Austlandet*. Oslo: Samlaget, 1974.
- PÁLSSON, Hermann. »The Saami people in Old Norse Literature«. In: *Nordlit* 1999.5 (1999). 29–53.
- REITAN, Jørgen: *Aalens maalføre: kort fremstilling av lydlæren med oversigt over ordenes bøining*. (= Skrifter / 2 Historisk-filosofisk klasse; 1906:4). Christiania: Videnskabsselskapet i Kristiania, 1906.
- REITAN, Jørgen: *Rørosmålet*. (= Skrifter utg. av Det Kongelige norske videnskabers selskab; 1932:6). Trondheim: Brun, 1932.
- RIAD, Tomas: *Structures in Germanic prosody: a diachronic study with special reference to the Nordic languages*. Stockholm: Stockholms universitet, 1992.
- SCHULTZE, Johan A.: *Eit eldre jamningstilhøve i vest-vikversk (eldre jamning på -å). Ei utgreiding i jamføring med stoda i Numedal, Aust-Telemark og andre vikvervmål med ekskurs, målkart og ekskursjonar, 1*. (= Skrifter frå Norsk målførearkiv; 27). Oslo: Universitetsforlaget, 1972.
- SEIP, Didrik Arup and Laurits SALVEIT: *Norwegische Sprachgeschichte*. (= Grundriss der germanischen Philologie; 19). Berlin: de Gruyter, 1971.
- SENKEVIČ-GUDKOVA, Viktorija V.: »Zakon kontrastnoj korreliacii količestva i ego vlijanie na sistemu fonem notozerskogo dialekta saamskogo jazyka«. In: ŠAUMIAN, S. K. (ed.): *Issledovanija po fonologii*. Moskva 1966. 368–375.
- SKULERUD, Olai: *Tinnsmaalet. Ei utgreiding um ljod- og formverket i maalføret i Tinn i Nord-Aust-Telemark under jamføring med andre norske og andrenordiske maal, med maalprøvor og ei ordliste*. Halle: Niemeyer, 1922.
- STORM, Johan. »Norsk Lydskrift med Omrids af Fonetiken«. In: *Norvegia* 1 (1884/1908). 19–173.
- STRÖMBÄCK, Dag: *Seijd. Textstudier i nordisk religionshistoria*. (= Nordiska texter och undersökningar; 5). Stockholm: Geber, 1935.

- TORP, Arne. »Nokre tankar om inndeling av folkemålet i Skandinavia«. In: *Folkmålsstudier* 28 (1983). 45–92.
- WANDE, Erling: »Meänkieli«. In: *Sveriges officiella minoritetsspråk. Finska, meänkieli, samiska, romani, jiddisch och teckenspråk. En kort presentation*. (= Skrifter utgivna av Svenska språknämnden; 86). Stockholm: Svenska språknämnden, 2003. 21–30.
- WESSÉN, Elias: *Schwedische Sprachgeschichte*. 1–3. (= Grundriss der germanischen Philologie). Berlin: de Gruyter, 1970.
- WIIK, Kalevi: »The Baltic Sea prosodic area revisited«. In: SUHONEN, Seppo (ed.): *Itämerensuomalainen kulttuurialue = The Fenno-Baltic Cultural Area*. (= Castrenianumin toimitteita; 49). Helsinki: Suomalainen-ugrilainen seura, 1995. 75–90.
- WIIK, Kalevi. »The Uralic and Finno-Ugric phonetic substratum in Proto-Germanic«. In: *Linguistica Uralica* 33.4 (1997). 258–280.
- WIIK, Kalevi: *Eurooppalaisten juuret*. Jyväskylä: Atena, 2002.
- ZACHRISSON, Inger (ed.): *Möten i gränsland. Samer och germaner i Mellanskandinavien*. (= Monographs; 4). Stockholm: Statens historiska museum, 1997.
- ZACHRISSON, Inger: »Samisk-nordiska kulturkontakter i mellanskandinavien under 6–700-talen e. kr. (vendeltid) – utifrån det arkeologiska materialet«. In: KUSMENKO, Jurij (ed.): *The Sámi and the Scandinavians. Aspects of 2000 years of contact*. (= Schriften zur Kulturwissenschaft; 55). Hamburg: Kovač, 2004. 9–16.
- ZACHRISSON, Inger: »Nordiskt – samiskt – internationellt. Nätverk över Östersjön«. In: HORNSCHEIDT, Antje, Kristina KOTCHEVA, Tomas MILOŠCH and Michael RIESSLER (eds.): *Grenzgänger. Festschrift zum 65. Geburtstag von Jurij Kusmenko*. (= Berliner Beiträge zur Skandinavistik; 9). Berlin: Nordeuropa-Institut der Humboldt-Universität, 2006. 356–367.